

**BEFORE
THE PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA
DOCKET NO. 2019-226-E**

IN RE: South Carolina Energy Freedom Act)
(House Bill 3659) Proceeding Related to) **INTERVENOR, SOUTH CAROLINA**
S.C. Code Ann. Section 58-37-40) **SOLAR BUSINESS ALLIANCE, INC.’S**
and Integrated Resource Plans for) **FIRST SET OF**
Dominion Energy South Carolina,) **INTERROGATORIES**
Incorporated)
TO: K. CHAD BURGESS, ESQUIRE, ATTORNEY OF RECORD FOR DOMINION
ENERGY SOUTH CAROLINA, INCORPORATED:

Intervenor, South Carolina Solar Business Alliance, Inc., (hereinafter as, “SCSBA”), pursuant to Reg. 103-835 and Rule 33, of the South Carolina Rules of Civil Procedure, hereby serves, **Dominion Energy South Carolina, Incorporated**, (hereinafter as, “DESC”) with Intervenor, South Carolina Solar Business Alliance, Inc.’s First Set of Interrogatories, to be answered separately within twenty (20) days from the date of service hereof. Please set forth DESC’s answers separately, after restating the question.

INSTRUCTIONS

IT IS HEREIN REQUESTED:

1. That all information shall be provided to the undersigned in the format as requested.
2. That all answers to the below Interrogatories shall be labeled using the same numbers as used herein.
3. That if the requested information is found in other places or in other exhibits, reference not be made to those, but, instead, that the information be reproduced and placed in the answers to these Interrogatories in the appropriate sequence.
4. That any inquiries or communication relating to questions concerning clarifications of the data requested below be directed to the undersigned.
5. That all exhibits be reduced to an 8 1/2” x 11” format.
6. That each Interrogatory be reproduced at the beginning of the answer thereto.

7. If the answer to any Interrogatory is that the information requested is not currently available, state when the information requested will become available.

8. These Interrogatories shall be deemed continuing, so as to require DESC to supplement or amend its responses as any additional information becomes available up to and through the date of trial.

9. If a privilege not to answer an Interrogatory is claimed, identify each matter as to which the privilege is claimed, the nature of the privilege, and the legal and factual basis for each such claim.

10. If a refusal to answer an Interrogatory is based on the grounds that same would be unduly burdensome, identify the number and nature of documents needed to be searched, the location of the documents, and the number of hours and costs required to conduct the search.

11. Answer each Interrogatory on the basis of the entire knowledge of DESC, including information in the possession of DESC, or its consultants, representatives, agents, experts, partners, employees, independent contractors and attorneys, if any.

12. If any Interrogatory cannot be answered in full, answer to the extent possible and specify the reasons for DESC's inability to answer.

DEFINITIONS

As used herein, the following terms shall have the meaning and be interpreted as set forth below:

1. **“You” or “your” shall refer to, DESC.**
2. **The conjunctions “and” and “or” shall be interpreted** in each and every instance as meaning “and/or” and shall in neither instance be interpreted disjunctively to exclude any document or information otherwise within the scope of any description or request made herein.

3. **“Document” shall mean** all originals of any nature whatsoever, identical copies and all non-identical copies thereof, pertaining to any medium upon which intelligence or information is recorded in your possession, custody or control, or other tangible objects regardless of where located; including, without limiting the generality of foregoing, punch cards, print-out sheets, movie film, slides, photographs, records, work papers, source documents, microfilm, notes, letters, memoranda, ledgers, worksheets, books, magazines, notebooks, diaries, calendars, appointment book registers, charts, cable, papers, agreements, contracts, purchase orders, acknowledgements, invoices, authorizations, budgets, analyses, projections, transcripts, minutes of meeting of any kind, correspondence, telegrams, drafts, data processing disks or tapes, or computer-produced interpretations thereof, instructions, announcements, schedules, and price list. Media includes data on computers, laptop computers, netbook computers, cell phones, telephones, PDA’s, Blackberry’s or Blackberry type devices, smart phones, external hard drives and flash drives or storage devices of any type, of DESC and specifically includes the computer and or laptop computers utilized by Representatives of DESC. Media means media, as broadly as the term “media” may be defined, that contains electronic data, as to the Interaction between SCSBA and DESC.

4. **“Identify” or “identity”** used with reference to an individual means to state his or her full name, present or last known address, present or last known position and business affiliation, and employer, title, and position at the same time in question.

5. **“Identify” or “identity”** used with reference to a writing means to state the date, author, type of document (e.g. letter, memorandum, telegram, chart, note, application, etc.) or other means of identification, and its present location or custodian. If any such document is no longer in your possession or subject to their control, state what disposition was made of the document(s).

6. All references to the singular contained herein shall be deemed to include the appropriate plural number and all references to the plural shall be deemed to include the singular. All references to the masculine gender contained herein shall be deemed to include the appropriate feminine and neuter genders.

FIRST SET OF INTERROGATORIES

1. Please provide a detailed description of how the candidate resource plans discussed on IRP pp. 40-41 were created and selected, including but not limited to whether DESC employed any modeling software (including but not limited to capacity expansion modeling software), the identity of such modeling software, and how the software was used; and DESC's basis for selecting the timing (i.e. online or retirement years), MW amounts, and technology/fuel types for each candidate resource plan.

2. Were any other resource plans considered by DESC (even if such plans were not fully analyzed) that are not discussed in the Resource Plan Analysis on IRP pp. 37-51? If so, please describe these resource plans in detail and explain why each was eliminated from further consideration.

3. Did DESC consider (even if such plan was not fully analyzed) any resource plan with resource additions or retirements prior to 2026? If not, please explain why. If so, please explain why these plans were not considered in the IRP.

4. Did DESC consider (even if such plan was not fully analyzed) any resource plan with more accelerated coal retirements than those modeled in RP1-RP8? If not, please explain why. If so, please explain why these plans were not considered in the IRP.

5. Please clarify which resource plans described on IRP pp. 40-41 include aeroderivative CTs, and how this need was determined.

6. With regard to the "Resource Plan Analysis" on IRP pp. 37-51:

- a. Why were power purchase imports not included as a "Potential Resource" (p. 39)?
- b. Why was battery storage limited to 100 MW, 4-hour duration, as opposed to including other sizes, durations, or configurations, in the "Potential Resource" list (p. 39)?
- c. With regard to the analysis of coal units, please describe in detail, and explain the basis for, all assumptions about must-run unit designations, fixed cost or "take or pay" contracts for coal or coal transport assumed to be in place, fixed cost coal unit maintenance contracts assumed to be in place.

7. With regard to the analysis of emissions and fuel price sensitivities discussed on IRP p. 44, please describe in detail the source or basis for all assumptions concerning CO2 prices, gas price forecasts, and gas transmission costs.

8. Please describe any scenarios or sensitivities that were initially considered but eliminated prior to the Resource Plan Analysis on IRP pp. 37-51 and explain why they were eliminated from further consideration.

9. Please describe how DESC chose the scenarios and sensitivities to model within the Resource Plan Analysis on IRP pp. 37-51.

10. Please describe in detail the load forecast that was used for determining each of the resource plan cost results reported on IRP pp. 42-45, and explain in detail the rationale for selecting that load forecast to the exclusion of other forecasts discussed on IRP pp. 9-11.

11. With regard to the analysis of Resource Plans RP5 and RP7, please describe in detail the impact battery storage has on ancillary services needs, integration cost, or curtailment of solar resources under these resource plans, as well as the source and basis of DESC's determination of this impact.

12. Please describe in detail all assumptions, and the source and basis of those assumptions, related to the valuation of solar and solar plus storage resources in Resource Plans RP5, RP6, and RP7, including but not limited to: the annual cost inputs used, labeled in nominal or real dollars as appropriate (please provide in tabular format); the contract length assumptions for the solar PPA potential resource listed on IRP p. 39; the capacity credits assumed for all solar and battery storage "Potential Resources" in the IRP Resource Plan Analysis on IRP pp. 37-51; and the capacity credits assumed for all solar PV currently operating and under contract on the DESC system.

13. Please provide a detailed explanation of the term "flexible solar" defined on IRP p. 40, including whether this term assumes both dispatch up and down for standalone solar and the extent of dispatch capability required to qualify as flexible solar, and whether the Company is able to operate its system today to include solar with these capabilities.

14. Please describe the source or basis for assumed impacts from resources that qualify as "flexible solar" as defined by DESC, including the impact on representation of solar PV in the IRP Resource Plan Analysis in terms of associated ancillary services needs, integration cost, and curtailment.

15. Please identify which resource plan was selected by the Company as the most reasonable and prudent means of meeting energy and capacity needs at this time, and describe in detail the basis for this selection, including but not limited to how the cost results reported on IRP pp. 42-45, and any other data, analysis, or assumptions were considered. If any stochastic modeling approaches (such as Monte Carlo simulations) were used in this analysis, please describe in detail how such approaches were used.

16. Did DESC consider the result that other resource plans modeled in the IRP were lower cost than RP2 in multiple scenarios? If so how does the Company weigh these results in the selection of the resource plan?

17. Please describe in detail how DESC considered each of the factors listed in S.C. Code § 58-37-40(C)(2)(a)-(g) for each resource plan, and describe how the IRP “balances” these factors in the selection of the resource plan.

18. With regard to all PROSYM or other production cost modeling performed by DESC or relied on in the preparation of the IRP:

- a. Please describe whether and how the PROSYM runs performed utilize sub-hourly time intervals, chronological hourly time intervals, and multiple stages of unit commitment and dispatch, such as day-ahead, hour-ahead, real-time.
- b. Please describe in detail, including the source and basis of any methodology used, how the Company determines its need for and the cost of system ancillary services and how PROSYM accounts for system needs, including the following system ancillary services: regulation reserves, spinning reserves, non-spinning reserves, and any other operating reserves.
- c. Please describe any constraints or costs that DESC applied to the PROSYM runs or outputs to reflect solar PV integration costs, and the source or basis of those assumptions.
- d. Please describe any assumptions about curtailment of solar PV, including how much solar is curtailed in the PROSYM runs performed, and the source or basis for these assumptions.

- e. Please describe in detail how PROSYM optimizes battery storage operation, including but not limited to whether it has the capability to model storage charge and discharge more than once per day and more than once per hour, as well as the source or basis for assumptions about battery storage performance capabilities.

19. How did DESC determine that resource plan SBA1 on IRP p. A-2 should include an aeroderivative CT?

20. Please describe in detail any other assumptions relied on by DESC in the formulation of its IRP concerning solar PV integration needs, impacts, or costs, including the source or basis of those assumptions.

21. Regarding the “corporate commitments” described on IRP p. 26 to reduce CO2 and methane emissions, please describe in detail all plans DESC has formulated for how to achieve these goals on its system. If DESC does not currently have any such plans, please explain why It does not and when and how it intends to formulate such plans.

22. Please describe in detail the methodologies and assumptions used in any net present value calculations relied on the IRP.

/s/Richard L. Whitt

Whitt Law Firm, LLC

401 Western Lane, Suite E

Irmo, South Carolina, 29063

(803) 995-7719

Counsel for South Carolina Solar Business Alliance,
Inc.

June 4, 2020

Irmo, South Carolina